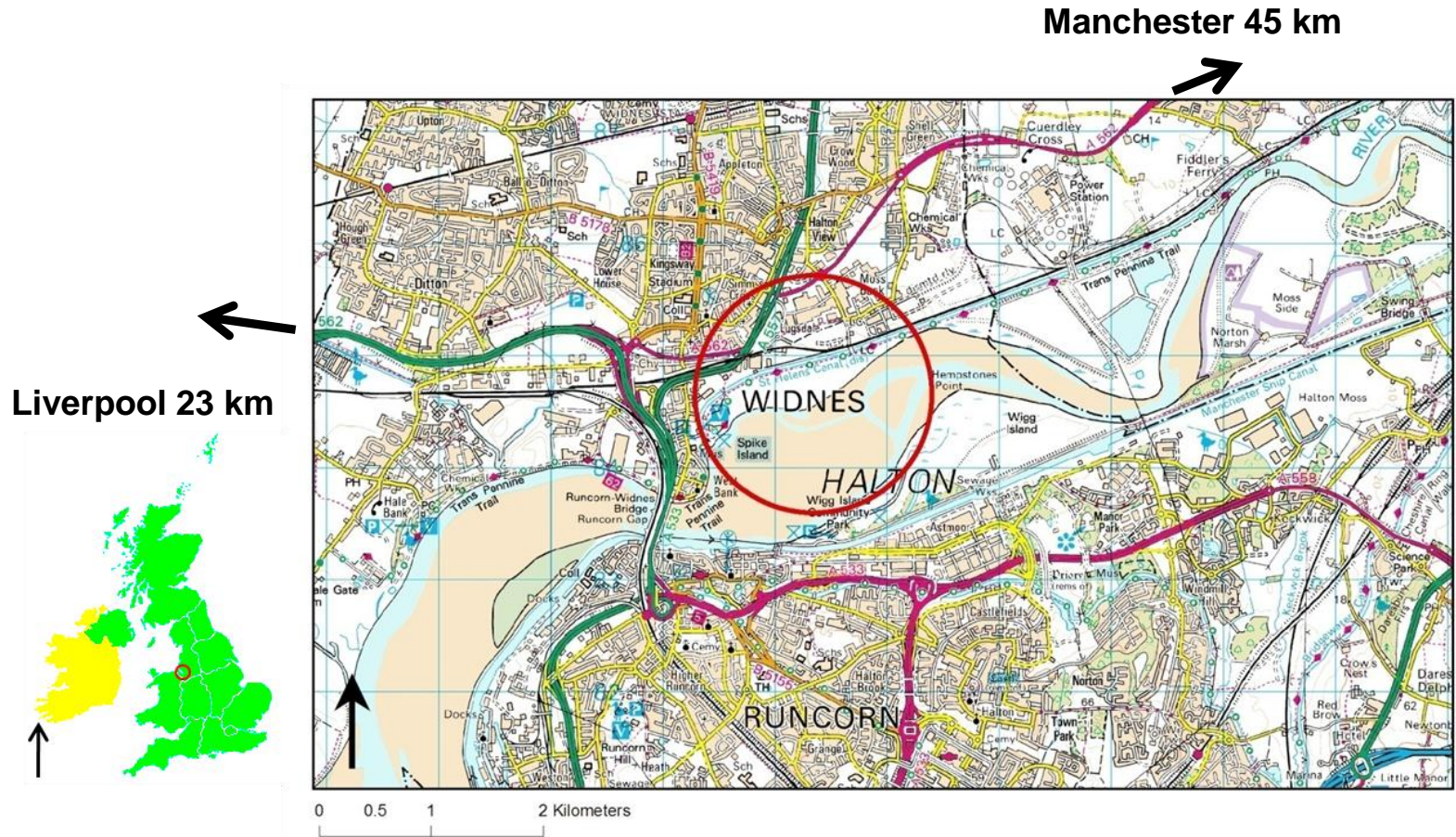


Incorporating Ecosystem services and environmental planning.

Translating a conceptual framework into decision making in a social-ecological system.



Widnes Warth Saltmarsh, Cheshire U.K. Photo D. Smith 2011



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Figure 1: Research area showing Widnes Warth saltmarsh, in large red circle, in relation to the Mersey Estuary. Inset shows location in the British Isles.

Urban Saltmarsh

- Wild species diversity
- Carbon sequestration
- Recreation – the Cultural gap



Unmanaged, previously grazed saltmarsh. Photo D. Smith 2011

Method

- Match planning decisions with Ecosystem Services
- Cattle 13 April → 23 August 2011
- Record changes in cultural ES



Cattle grazing, urban saltmarsh. Photo D. Smith 2011

Output

- Examine social-ecological system dynamics to provide framework to local council

Matching decision/ policy with ES



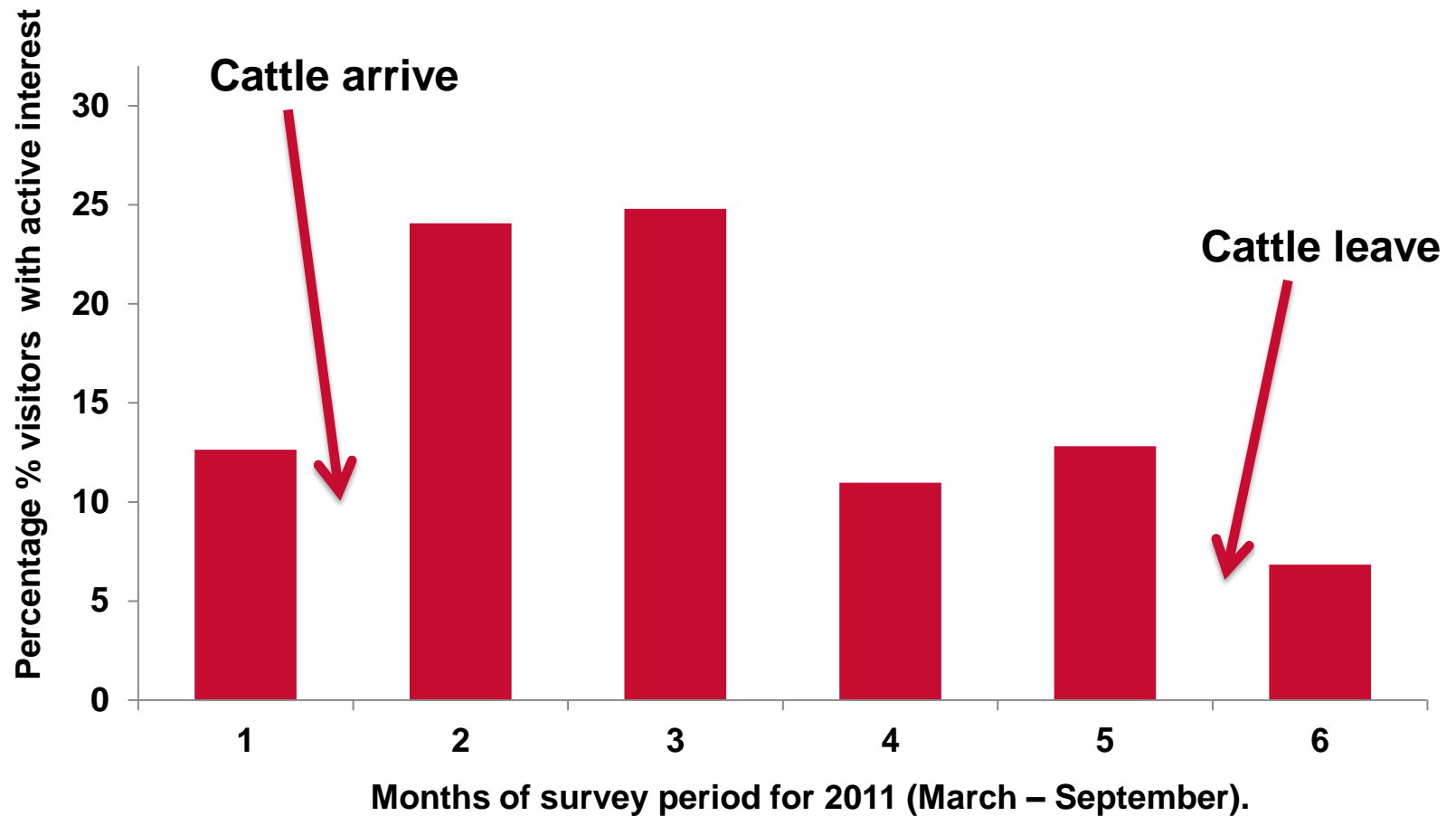


Figure 3: Percentage active interest taken in charismatic grazing cattle project. The grazers were present for 4 months from April – August 2011.

Cultural perceptions emerging

Ownership

“I always check on them when I come down.”

“I’ve come to check on my ladies.”

“We couldn't see them for a while, we thought they were swimming.”

History

“I remember the old days when this was a mess...”

“When I was a lad...”

“It was awful back in the day...”

“It’s cleaned up fantastic...it used to be disgusting...”

Nature

“I’ve seen a lot more lapwing this year”

“We need more wildlife.”

“It’s well down that grass.”

“It’s about time we had some nature.”

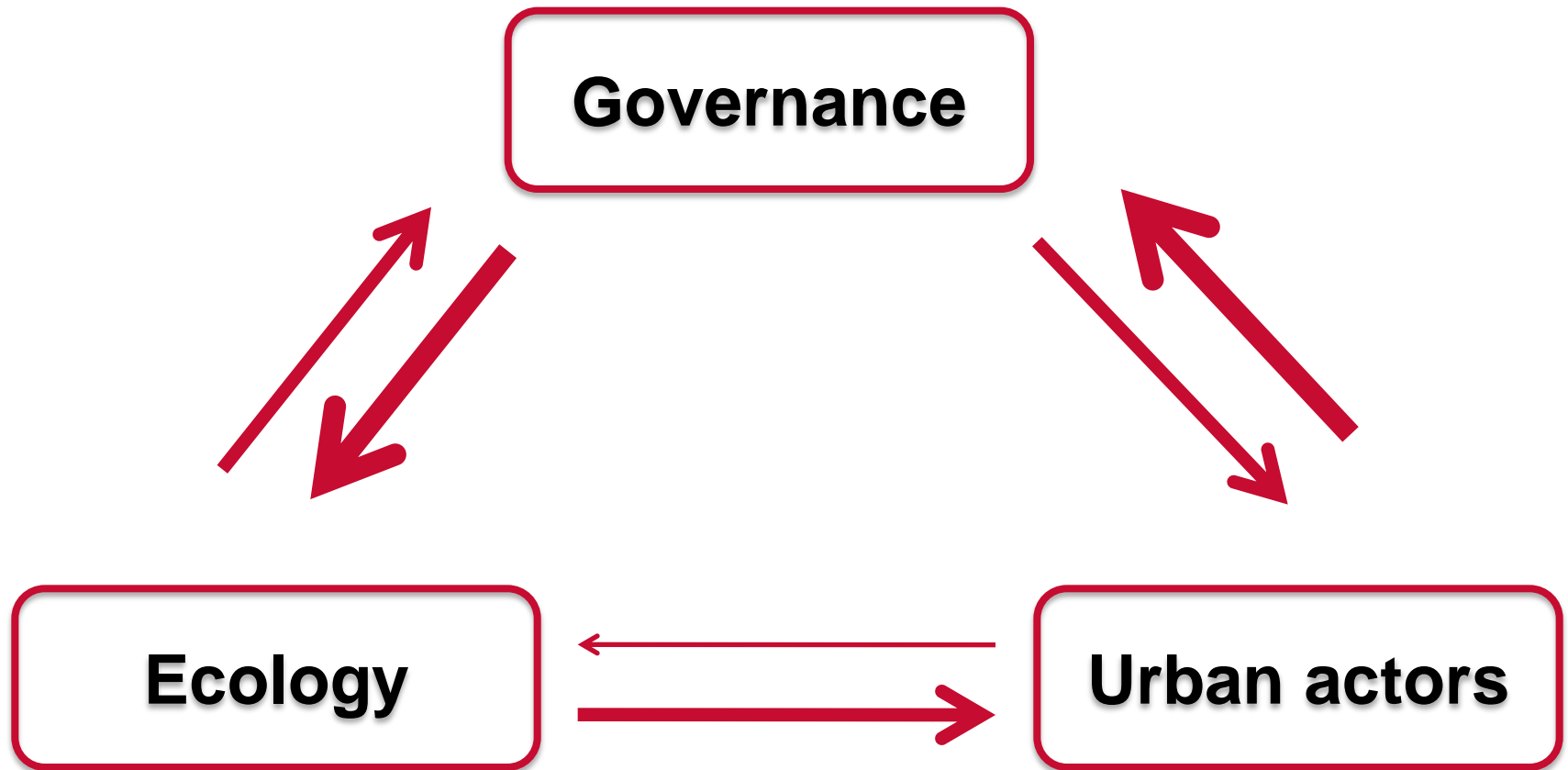


Figure 4: The salt-marsh social-ecological system showing three main components and the strength of feedback between these.

Governance

Ecosystem processes
Intermediate ES

Ecology

Final ES
Goods

Urban actors

Figure 5: Integrating Ecosystem Services into a social-ecological system.

Conclusion

- Decisions and ecosystem services have been matched
- Influence of management decisions show possible increase in delivery of cultural ecosystem services.
- Social-ecological system being mapped

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